Functional Guidelines for Evaluating Organic Analysis

CASE No.: 42187 **SDG No.: B0AA1**
LABORATORY: A4 Scientific **SITE: Riverside Avenue**
ANALYSIS: HERBS (Mod Ref # 1675.2)

DATA ASSESSMENT

The current SOP HW-17 (Revision 2) September 2006, USEPA Region II Data Validation SOP for evaluating organic data has been applied.

All data are valid and acceptable except those analytes rejected "R"(unusable). Due to the detection of QC problems, some analytes may have the "J" (estimated), "N" (presumptive evidence for the presence of the material), "U" (non-detect) or "JN"(presumptive evidence for the presence of the material at an estimated value) flag. All action is detailed on the attached sheets.

The "R" flag means that the associated value is unusable. In other words, significant data bias is evident and the reported analyte concentration is unreliable.

Reviewer's Signature: Raxa J Shelley **Date:** March/05/2011

Peer Reviewer's Signature: _____ **Date:** / /2011

Verified By: _____ **Date:** / /2011

1. HOLDING TIME:

The amount of an analyte in a sample can change with time due to chemical instability, degradation, volatilization, etc. If the specified holding time is exceeded, the data may not be valid. Those analytes detected in the samples whose holding time has been exceeded will be qualified as estimated, "J". The non-detects (sample quantitation limits) will be flagged as estimated, "J", or unusable, "R", if the holding times are grossly exceeded.

The following action was taken in the samples and analytes shown due to excessive holding time.

No problems found for this qualification.

2. SURROGATES

All samples are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. If the measured surrogate concentrations were outside contract specifications, qualifications were applied to the samples and analytes as shown below.

No problems found for this qualification.

3. MATRIX SPIKE/SPIKE DUPLICATE, MS/MSD:

The MS/MSD data are generated to determine the long-term precision and accuracy of the analytical method in various matrices. The MS/MSD may be used in conjunction with other QC criteria for additional qualification of data.

The relative percent difference (RPD) between the following pesticide matrix spike and matrix spike duplicate recoveries is outside criteria. As per Mod Ref # 1675.2, the RPD control limits are advisory and no action was taken.

2,4-D
2,4,5-T
2,4-DB
Dichloroprop
2,4,5-TP (Silvex)
MCPA
Dalapon
Pentachlorophenol
B0AB5, B0AB5MS, B0AB5MSD

The following pesticide matrix/matrix spike duplicate samples have percent recoveries that are greater than the upper acceptance limit. As per Mod Ref # 1675.2, the percent recoveries control limits are advisory and no action was taken.

2,4-D
2,4,5-T
4-Nitrophenol
2,4-DB

Dinoseb
2,4,5-TP (Silvex)
MCPP
Dalapon
Pentachlorophenol
B0AB5, B0AB5MS, B0AB5MSD

The following pesticide matrix/matrix spike duplicate samples have percent recoveries that are below the lower limit of the criteria window. As per Mod Ref # 1675.2, the percent recoveries control limits are advisory and no action was taken.

Dichloroprop
B0AB5, B0AB5MS, B0AB5MSD

4. LABORATORY CONTROL RECOVERY (LCS):

The LCS data is generated to determine the long-term precision and accuracy of the analytical method. The LCS may be used in conjunction with other QC criteria for additional qualification of data.

No problems found for this qualification.

5. BLANK CONTAMINATION:

Quality assurance (QA) blanks, i.e., method, field, or rinse blanks are prepared to identify any contamination, which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Field and rinse blanks measure cross-contamination of samples during field operations. Depending on the concentration of the analyte in the blank, the analytes are qualified as non-detects, "U".

The following analytes in the sample shown were qualified "U" for these reasons:

A) Method/Instrument blank contamination:
No problems found for this qualification.

B) Field or rinse blank contamination:
Not applicable.

6. CALIBRATION:

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of giving acceptable performance at the beginning of an experimental sequence. The continuing calibration checks document that the instrument is giving satisfactory daily performance.

A) Percent Relative Standard Deviation (%RSD) and Percent Difference (%D):

For the HERBCIDE fraction, if %RSD exceeds 20% for any analytes, qualify all associated positive results "J" and non-detects are not qualified.

B) The Percent Difference (%D) for each of the analytes in the CCV must be greater than or

equal to -25% and less than or equal to 25.0%. If Percent Difference exceeds ± 25%, detected associated compounds are qualified "J" and non-detected associated compounds are qualified "UJ".

The following analytes in the sample shown were qualified for %RSD and %D:

The following pesticide samples are associated with a CCV with % Difference exceeding criteria. Detected compounds are qualified J. Non-detected compounds are qualified UJ.

2,4-DB
B0AA0, B0AA1, B0AA2, B0AA3, B0AA4, B0AA5, B0AA6, B0AA7, B0AA8, B0AA9, B0AB0, B0AB1, B0AB2, B0AB3, PBLKIH, PLCSIH

MCPA
Dalapon
B0AA0, B0AA1, B0AA2, B0AA3, B0AA4, B0AA5, B0AA6, B0AA7, B0AA8, B0AA9, B0AB0, B0AB1, B0AB2, B0AB3, B0AB4, B0AB5, B0AB5MS, B0AB5MSD, B0AB6, B0AB7, B0AB8, B0AB9, PBLKIH, PLCSIH

The following pesticide samples are associated with Mid- Point Individual Standard Mixture C in which the percent resolution between two adjacent peaks did not meet the resolution criteria. Detected compounds are qualified J. Using professional judgment, non-detected compounds are qualified UJ.

2,4-DCAA B0AA0, B0AA1, B0AA2, B0AA3, B0AA4, B0AA5, B0AA6, B0AA7, B0AA8, B0AA9, B0AB0, B0AB1, B0AB2, B0AB3, B0AB4, B0AB5, B0AB5MS, B0AB5MSD, B0AB6, B0AB7, B0AB8, B0AB9, PBLKIH, PLCSIH
2,4,5-T, 2,4,5-TP, 2,4-D, 2,4-DB, Dalapon, Dicamba, Dichloroprop, Dinoseb, MCPA, MCPP, Pentachlorophenol, 4-Nitrophenol

7. COMPOUND IDENTIFICATION:

The retention times of reported compounds must fall within the calculated retention time windows for the two chromatographic columns and a GC/MS confirmation is required if the concentration exceeds 10ng/ml in the final sample extract.

The following pesticide samples have percent differences between analyte results in the range of 26-50%. Detected compounds are qualified J.

2,4-D B0AB5MS, B0AB5MSD
4-Nitrophenol PLCSIH
2,4,5-T B0AB5MS, B0AB5MSD
2,4-DB PLCSIH
Dichloroprop B0AA6, B0AB7
2,4,5-TP (Silvex) B0AB5MSD

The following pesticide samples have percent differences between analyte results in the range of 51-100%. Detected compounds are qualified NJ.

Dichloroprop B0AA8, B0AB0, B0AB5, B0AB6

The following pesticide samples have percent differences between analyte results in the range of 51-100%. Using professional judgment, these pesticide are qualified J.

4-Nitrophenol B0AB5MSD
Dinoseb B0AB5MS
Dalapon B0AB5MS
Pentachlorophenol B0AB5MSD
Dicamba B0AB5MS, B0AB5MSD

The following pesticide samples have percent differences between analyte results exceeding 100%. Detected compounds are qualified R.

Dichloroprop B0AA9, B0AB4

The following pesticide samples have percent differences between analyte results exceeding 100%. Using professional judgment, these pesticide are qualified J.

4-Nitrophenol B0AB5MS
Dichloroprop B0AB5MS, B0AB5MSD
2,4-DB B0AB5MSD
Dinoseb B0AB5MSD
MCPA B0AB5MS
MCPP B0AB5MS, B0AB5MSD

8. **CONTRACT PROBLEMS NON-COMPLIANCE:** No problem.

9. **FIELD DOCUMENTATION:** No problem.

10. **OTHER PROBLEMS:** None.

11. **This package contains re- extractions, re-analyses or dilution runs. Upon reviewing the QA results, the following Form 1(s) are identified NOT to be used.**
None.